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## ACTHA Inc. News Apr - May 2011

Newsletter of the ACT Herpetological Association Inc.

## YOUR COMMITTEE FOR 2010 - 2011

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#### **DIARY DATE**

The *bi-monthly* meetings of the Association are held on the **third Tuesday of the month at 7.30pm**, Southern Cross Club, Catchpole Street, Macquarie, Belconnen.

#### **UPCOMING MEETING**

#### Tuesday, 19 April 2011

Our Secretary, Angus Kennedy, will be presenting a slideshow from his recent trip around the Eyre Peninsula of South Australia.



The trip included a stint helping out with an ANU based research project in the Pinkawillinie Conservation Park that involved a lot of reptile trapping - so photographs and stories were plentiful. Angus will give a broad overview of some of the research methods and show photographs of a wide variety of the local herpetofauna. A meeting not to be missed!



# SMALL GRANTS FOR HERPETOFAUNA CONSERVATION, EDUCATION, TRAINING & RESEARCH PROJECTS

In recent years the ACT Herpetological Association Inc. has granted money towards herpetofauna related projects in various fields such as conservation, recovery, education, training and research. These grants will be made available again this financial year and the Association wishes to advise interested parties of the application process.

The major fund raising effort by the Association is the *Snakes Alive!* Exhibition held each January at the Australian National Botanic Gardens (ANBG). ACTHA has again decided to use a portion of these funds to provide encouragement and assistance in monetary terms to students or others who are currently involved in herpetofauna related activities.

This year grants will be awarded from \$100 - \$1500. Some examples of previous uses are:

- purchase of equipment or materials that would assist students or others who are undertaking herpetofauna research;
- funding of small or pilot school or community education projects related to herpetofauna;
- assistance to persons or groups to acquire training which would improve academic and/ or community contributions to achieving worthwhile herpetofauna related outcomes.

While the awarding of a grant is at the complete discretion of the Association, listed below are some factors that should be considered by applicants when applying for a grant:

- ⇒ Grants will not be awarded for costs associated with travel.
- ⇒ Funding for re-usable equipment will be favoured, but this is not essential.
- ⇒ Projects within the ACT and Southern Tablelands region will be given priority.

Due to a limited funding pool, grants may be awarded at a reduced rate.

ACTHA would like to receive expressions of interest from those who feel they may be eligible to receive such funds. The Committee will then make recommendations to the Association concerning the submissions. It is hoped to keep the process straightforward and, to this end, an

'ACTHA Grant Application Form' in PDF format for interested people to complete and submit, preferably electronically, is available on the Association's website: www.actha.org.au.

Applications should be submitted by **COB 31 May 2011**. Applicants will be notified in writing of the outcome of their application within six weeks of the closing date.

Should you have any questions please contact the ACTHA Secretary at info@actha.org.au.

# PHOTOGRAPHY WORKSHOP AT GARUWANGA, NIMMITABEL NSW

Article by Margaret Ning and Geoff Robertson

We were a group of twelve who converged on Nimmitabel for our photography workshop on the weekend of 12-13 February 2011. Our presenters were Geoffrey Dabb and 'Steve' Stephinson, well known 'Birdos' from the Canberra Ornithologists Group.

Saturday began as overcast, which suited us totally as we were intending to stay in the barn for our first session. Geoffrey showed us slides and fielded many questions. Equipment, depth of field and photography software were among the topics he covered. He also explained how he only takes 'RAW' images and showed some advantages of shooting in this format where this option is available. There was a show and tell of everyone's equipment and then Joe talked about how he takes some of his splendid pics.

We had toasted sandwiches for lunch and then regathered for the afternoon session. Geoffrey discussed traps for young players after which Steve showed us his photographs and talked about his photography dos and don'ts.

After finishing the workshop for the day, Geoffrey, Steve and Charles Greg were shown around the property by Geoff. At the tallest peak on the property, Geoffrey spotted some very small mammals climbing around a dead tree. They optimistically reported back and the hope was that a new native species for Garuwanga had been sighted.

The break in the weather continued and we were able to go ahead with the evening BBQ we had been planning. In fact, it was such a pleasant evening that we ate our dinner around the barby. Geoffrey Dabb entertained us with some poetry and song with such an outstanding performance that few were game to follow. There was a minor hiccough when the power went out in the house and barn, but fortunately we had sufficient candles to see us through. A phone call confirmed there was a general outage in the area.

On the Sunday morning before breakfast, Geoffrey was out and about with his longest lens taking photographs of birds. This developed into an informal session as many of the participants took instruction on how to take pictures in those circumstances. After breakfast, we drove in convoy to an area on the property near the Kydra River,



where people fanned out, cameras in hand, to take further instruction and photos. Joe McAuliffe (*below*) spent most of his time taking photos of reptiles. It was shaping up to be a lovely fine day so we were able to wander extensively.

Before lunch, Geoffrey showed us the various photographs he had taken earlier in the morning, and illustrated that pictures taken in dim light, using RAW format, could be resurrected.

After lunch on the Sunday Joe talked about his reptile breeding endeavours and Geoff gave a presentation on Garuwanga and our biodiversity and cultural heritage stewardship agreement with Murrumbidgee Catchment Management Authority.

By the time Geoff and I departed Garuwanga on the Sunday evening, Geoffrey Dabb was stationed at the 'small mammal site' totally optimistic that he would be able to get some pictures of the little critters, which we were all hoping would turn out to be Antechinus. And that is what it was – a group of agile Antechinus, as kindly identified for us by Darryl King who was one of those who originally described the species.

Special thanks go to Geoffrey and Steve for coming along and patiently imparting their expertise, and to Greg Flowers for organising the weekend.



#### HERPING ON HOLIDAYS

By Mandy Conway

Being a herpetologist on holiday can sometimes be tricky.

Hubby and I went on an 11 day P&O Cruise to Vanuatu and surrounds in February 2011. Thankfully we sailed after cyclone Yasi!.

Our ship was very comfy, the food was brilliant (although in excessive amounts), the noisy party atmosphere was ok for a couple of days after which we sought quieter areas.

Three days out and our first port of call was the Isle of Pines where we could finally go for a swim in the beautiful looking waters.

#### Reptile encounter

Paddling near a rocky outcrop in very shallow waters we spotted a Banded Coral Sea Krait. Wow! It was moving slowly along flattish rocks underneath a rocky overhang. I was following it

slowly from a few metres away, trying to take a good picture and before I knew it quite a crowd of people formed behind me. Most just stood there in quiet appreciation. The



"get out of the water!" and "one bite and you're dead!" from some of the observers, however, compelled me to give an impromptu talk.

So, I gave a short spiel on how to admire these potentially dangerous animals from a safe distance and I described some of its interesting attributes, like the tail built for propulsion through water.

The snake soon entered the water and slowly and calmly swam along the shore. I was busily answering questions about what to do if you encountered one swimming (or slithering on land) near you "...keep very still and just allow the animal to move past you..." when I realised the snake was in fact quickly drifting towards me. Should I heed my words and just stand there or try to move slowly away? Too late to move so I stayed put. The snake drifted across the top of my foot (very shallow water) and momentarily rested its head there, flicking its tongue a couple of times before moving off towards the rocks. It moved so gently and gracefully: it's a moment I'll never forget, although hubby is keen to!

**Good part:** snake moves quietly off, point made. (*I should point out here that I had been observing the* 



snake for some time before taking photos and deemed it to be in a 'good' mood. My subsequent contact, however, was completely unintentional.)

**Bad part:** some people decided that it was now safe to crowd the animal and kids were even paddling towards it!!

I quickly changed tact and in a firm voice explained that these reptiles are very dangerous, poisonous and can bite if frightened. "You should never corner one and keep a respectful distance,

especially if unfamiliar with the species".

Unbelievably, a mature bloke waded towards the snake and poked it with his snorkel! "##+@\*...".
"Sir, that was very stupid, weren't you

listening, do you have a death wish and could everyone now move slowly back to give the creature some space!" Boy was I cross...

I thought all would be ok as the snake reached the rocks when the young bloke standing next to me said "Let's kill it!" I told him off for being a complete jerk. When he took a step towards the snake and repeated his statement I raised my fists and threatened to knock him out if he took another step. His father then joined the fracas and started arguing with me. Thankfully the snake retreated to the safety of a cave whilst tempers cooled.

#### A begging question:

Given the very different nature of people, was it wise to impart knowledge to the interested, responsible few in this case (many of whom sought me out once back on the ship to ask all sorts of reptile questions) to then risk silly behaviour by newly confident idiots?

I must say that in future I would be unwilling to attract attention to any reptile I come across in front of anyone other than a fellow herpetologist!



#### TIME TO CHECK YOUR FROG IDENTIFICATION SKILLS

Were you able to identify **Dave Hunter's frog photos**, which he presented in a slide show at ACTHA's 2010 Christmas Party? Dave encountered the frogs on a family holiday to \*Eungella National Park and surrounds, northern QLD. (*See full article in 'Feb - Mar 2011' ACTHA Newsletter*).

The Newsletter was placed on the ACTHA Website in early March 2011 where these amphibians appeared in full colour. Dave kindly provided the following identification notes. How did you go? (Ed. got 5 out of 8...)

Ed: 'Feb - Mar 2011' Newsletter. \*Eungella National Park, not 'Yangalla NP' as written.





a) Rockhole Frog Litoria meiriana



c) Liem's Frog Taudactylus liemi



e) Great Barred Frog Mixophyes fasciolatus



g) Rocket Frog Litoria nasuta



**b)** Red-eyed Tree Frog Litoria chloris



d) Red-eyed Tree Frog Litoria chloris



f) Ornate Burrowing Frog Limnodynastes ornatus



h) Eungella Torrent Frog Taudactylus eungellensis

## 'LOST FROGS': A THREAT TO THE FROGS OF THE SOUTH COAST

Why did the stowaway Green Tree Frog cause such a stir in Kalaru on the South Coast this summer? Steve Sass, EnviroKey, tells all and gives anther good reason for getting to know your local frogs.

'Lost Frogs' is the term given to describe frogs that have been moved to a region where they do not naturally occur. In Australia, this translocation of frogs often occurs through the transportation of fresh produce, garden plants, landscape supplies and soils.

Lost frogs can threaten local frog populations. They can compete with local species for food and habitat, with the potential of displacing local species. Translocated frogs can also spread the amphibian disease known as Chytrid (pronounced 'kit-trid') fungus which is potentially fatal and has been attributed to the global decline in amphibian populations (Berger, Speare, & Hyatt, 1999).

In our region, at least two translocated frog species are known. These are the Eastern Dwarf Tree Frog, *Litoria fallax*, and the Green Tree Frog, *Litoria caerulea*.

The Eastern Dwarf Tree Frog has been heard around Tura Beach and Merimbula as well as a number of locations around Batemans Bay. This frog naturally occurs along the east coast of Australia from Sydney in the south to Rockhampton in the north. It is common around banana and pineapple plantations within its natural range. This, combined with its small size (around 2.5cm) makes it a perfect candidate to become a 'lost frog' when produce is transported to other areas. In Melbourne, the Eastern Dwarf Tree Frog is now commonly found in the vicinity of fresh produce stores and supermarkets, likely the artefact of a person with good intentions releasing the frog into their local bushland, creek or wetland. This species is now breeding in many parts of Melbourne.

In a recent case, a Green Tree Frog, *Litoria* caerulea, was captured by a local resident at Blackfellow's Lake, Kalaru in January 2011. The resident knew that this species was not found locally and contacted me for advice. Our investigations revealed that the frog was most likely to have been a stowaway on a caravan that arrived from Queensland several weeks



Green Tree Frog found at Kalaru, Litoria caerulea

prior. With an abundance of tourists with caravans visiting the south coast, this scenario is likely to be the most common occurrence of translocation.

To minimise the risks to local frog populations, the NSW Department of Environment, Climate Change and Water has established procedures for dealing with translocated frogs (DECCW, 2011). In our region, either WIRES or NANA wildlife carer groups should be contacted. We can also be contacted at <a href="mailto:steve@envirokey.com.au">steve@envirokey.com.au</a> for advice as to whether you have a translocated frog.

For the sake of our local frog populations, get to know your local species. If you hear or see any frog that you may not think is a 'local', take action!

For help with frog ID & info: http:// <u>frogs.org.au/frogs/ofNSW/</u> TheSouthCoast

#### References

Berger, L, Speare, R, & Hyatt, A.D (1999). 'Chytrid fungi and amphibian declines: overview, implications and future directions'. In A Campbell (Ed.), 'Declines and disappearances of Australian frogs' (pp. 23-33). Canberra: Environment Australia.

DECCW (2011). 'Banana Box' Frogs Retrieved 22nd January 2011, from <a href="http://www.environment.nsw.gov.au/">http://www.environment.nsw.gov.au/</a> animals/ BananaBoxFrogs.htm

[Reproduced from the CMN newsletter,
Issue 17 Summer 2011, page 4.
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# THE ONLY GOOD SNAKE IS A DEAD SNAKE. THINK AGAIN!

Matt Ellerbeck, Snake Advocate & Conservationist, THEWORD on Canberra and Queanbeyan, Fri 3 Dec 2010.

http://www.theword.com.au/?p=6085

An excerpt from the above article follows, Ed.

Many people have a natural aversion of snakes, while many others simply hate them. However, the negative stigma that surrounds snakes is completely undeserved. Snakes are in fact extremely beneficial animals to have around.

Snakes are absolutely paramount to the health of many eco-systems, the environment and to biodiversity. They are valuable components to the ecological communities in which they live; playing several complex roles, including that of predators and prey.

The natural predatory behaviors of snakes are also valuable to humans. Many snake species prey heavily on insects and rodents. When snake populations decline the populations of these prey items increases, often causing serious problems to people.

Insects and other arthropods can destroy gardens or enter people's homes where they will be undesired. When rodent populations serge, the animals can destroy crops at an alarming rate, effecting supplies of food and industries. They can also spread many harmful diseases. It is well documented that rodents are also a cause of house fires, caused by the chewing of wires in walls and attics.

Snakes are extremely valuable because they are efficient at keeping the number of rodents and insects in check, without relying on damaging chemical pesticides which can degrade the environment and harm other animal species. Snakes are very effective at hunting such prey because they can crawl into small burrows and other areas that rodents use as shelters. These places are too small for other predators to get into.

Snakes are also helping to save the lives of millions of people every year, as the venoms from snakes are being used to create treatments for many serious health ailments like cancers, heart & stroke disease, Parkinson's, Disease and many more.

However, despite these benefits legions of snakes are directly killed by people every year. Human fear of snakes is mainly derived from the fact that some species have the ability to inject toxic venom, or from the belief that snakes are notoriously aggressive. However, the snake's horrible reputation is not deserved. Snakes are very shy, timid, secretive, and generally docile creatures that try to avoid conflict whenever possible.

Snakes will not make unprovoked attacks on people. When a person comes in contact with a snake, the animal's first instinct will be to rapidly flee the area and find shelter. If the snake doesn't do this, it may just stay perfectly still to try to blend in with the surroundings.

According to the University of Melbourne's 'Snakebite Mortality In Australia' (2003), death from venomous snakebite in Australia is relatively uncommon.

Similar findings have been produced in other parts of the world. According to NC State University, almost 80% of snake bites happen when someone is trying to capture or kill the snake.

The key to being safe around snakes is to simply leave them alone. The following excerpt from the book 'Dangerous Snakes of Africa' by Branch and Spawls (1995), speaks volumes: "Snakes never make unprovoked attacks." Edward R. Ricciuti's 'The Snake Almanac' (Lyons Press 2001), states that venomous snakes do not look for people to bite.

This is why co-existing with snakes in a respectful manner is the best policy. By doing this, both humans and the snakes can stay safe.



### FROGS IN YOUR POND: TRANSLOCATING TADPOLES IS NOT THE WAY

ACTHA recently received the following query from a member of the public through our website.

"We have created a pond in our front garden and got some frog spawn from a friend. We put it in the pond about 3 months ago and the tadpoles hatched but I don't think any of them have turned into frogs - we don't hear any. They are the little creaking native ones I believe. Do you/your members have any advice which might assist us getting frogs please?"

Our esteemed Secretary, Angus Kennedy, provided the following helpful response.

"Having frogs in your garden is great - they consume a large number of insects and you will be providing valuable habitat for them, an increasingly rare commodity.

The best way to get frogs in your garden is by creating a good environment and allowing them to come naturally; they will almost certainly eventually make their way in of their own accord.

There is a group called Frogwatch ACT who have a guide and run classes on creating frog friendly habitats and gardens. See some links below:

- Creating a frog friendly habitat: Frog Friendly Habitat
- Frogs of the ACT: Frogs of the ACT
- Frogwatch email: frogwatch@ginninderralandcare.org.au

Frogwatch even runs the odd hands on course, so email them if you are interested.

Now, unfortunately there are a number of problems with taking frog spawn and I'll start with the most pressing first:

It is illegal. Frogs, at all stages of their lifecycle, are protected native animals and moving or taking them is illegal. Now this might sound harsh but there are good reasons, a few of which I will describe below.

Frog populations worldwide are declining at an incredible rate, with a huge number of species at real risk of extinction. This is also the case in Australia. One of the main reasons for this extinction is a disease called 'Amphibian Chytrid Fungus' (see <a href="http://www.environment.nsw.gov.au/animals/frogchytridfungus.htm">http://www.environment.nsw.gov.au/animals/frogchytridfungus.htm</a>).

Moving spawn/animals/anything aquatic at all really will increase the rate of spread of this disease.

Many frog species are in steep decline in Australia - a large number are endangered or even at risk of extinction. For some critical species, even moving one lot of spawn can have a significant impact on the population's chance of survival. It is very difficult to tell different species spawn apart, so when spawn is moved, you could be damaging a local population.

For your information we only have one non-native species of frog in Australia, the infamous Cane Toad. Moving its spawn is definitely not a good thing either! although it is only found further north, so not something to worry about in the local context.

I hope this has given some insight as to why it is not a good idea to take/relocate frog spawn or tadpoles. Frogwatch has a wealth of information on getting frogs in your yard naturally - it isn't that difficult to do, all you need is the right environment for them."



## CAIRNS PET OWNERS URGED TO GUARD AGAINST KILLER PYTHONS

Canberra Times article, p3, Thurs, 31 March 2011

Snakes, not curiosity, are killing cats in far-north Queensland.

In the past five weeks, scrub pythons have devoured nine cats in Cairns backyards.

Cairns snake removal expert David Walton says there's usually only one cat death a month from snakes.

"They'll bite and grab the cat and quickly intertwine the animal and squeeze and suffocate...until they sense there is no more heartbeat," he said. "Then they let go and swallow it.

"It would be quite traumatising for the owners as well to see the family pet being eaten like that.

"It's not the poor python's fault, he's just doing what he thinks is right to survive."

He said the extreme wet season could be to blame for the increase in snake attacks on cats. The scrub pythons taking the cats were usually longer than 3m.

"The scrub pythons here in the north can grow up to six, seven metres, they're Australia's largest snake," he said.

Mr Walton said residents had to take precautions to protect their pets.

"We have to learn to live with them, they've been here well before us," he said.

"People need to keep their cats secure at night time, because the pythons are nocturnal hunters."

He also warned bird owners to keep their cages secure.

Response from a member of the public the next day...

#### **PYTHON CAT NABS**

Canberra Times article, p10, Fri, 1 April 2011

If only we had scrub pythons in Canberra. What a very natural way to convince irresponsible cat owners that domestic cats belong inside at night!



#### **TURTLE HATCHLING DEFENSE MECHANISMS**

Ever wondered why turtle hatchings are bite-sized, conspicuously coloured or patterned, hatch en masse and yet aren't often found in the guts of fish?

A research project at the Memphis State University in Tennessee, US, has been investigating this very question.

Earlier research showed that adult Bass eat dead turtle hatchlings but spit live ones out. Apparently, fish spit live hatchlings out because the turtles claw and bite inside their mouths.

During experiments, a Bass made several attempts at swallowing a hatchling, spitting it out each time before eventually giving up. This doesn't appear to harm the hatchling but it does teach the fish to avoid live hatchlings in future.

The fish seem to learn to associate aspects of the hatchlings' appearance with their behaviour, recognising the young turtles' distinctive bright colours and patterns (which disappear as the turtles grow and rely more on their shells for protection).

If true, then this warning or 'aposematic' colouration can be definitively linked with behaviour.

Ed.

#### THE INTERNATIONAL SCENE

ACTHA Member Tony Lawson keeps us posted on developments in the international science arena.

**Dollo's Law**, a theory proposed by the scientist Louis Dollo in the 1800s, states that **when a** particular trait is lost in a species, it never comes back.

This article by Sindya N. Bhanoo Published: Feb 8, 2011 Excerpt from: http://www.nytimes.com/2011/02/15/ science/15obfrog.html?ref=science

It's one explanation for why humans no longer have tails, birds and turtles are toothless and snakes have stayed limbless.

But a new analysis, done by a researcher at Stony Brook University, found that while frogs lost teeth in the lower jaw at least 200 million years ago, a particular type of marsupial tree frog regained those lower teeth about 20 million years ago.

"It's a very clear-cut case of re-evolution because of the large time span," said Dr <u>John Wiens</u>, the Stony Brook biologist who authored the paper in the journal Evolution.

Dr. Wiens analyzed DNA samples of 170 modern and fossilized frogs to approximate the dates of loss and re-evolution of the teeth.

Most frogs have teeth on their upper jaws, which may have made the re-evolution in the tree frog, known as *Gastrotheca guentheri*, easier, Dr. Wiens said.

"They already had teeth in the upper jaw, so they had the enamel, dentine and other necessities," he said. "There was a way to facilitate new teeth after 200 million years."

The species is the only known modern frog species with lower teeth, though certain other species with upper teeth do have toothlike structures on the lower jaw.

"That's a big question now: What's keeping the other frogs from developing real teeth on the lower jaw?" Dr. Wiens said.

# Tanned tadpoles get eaten: tadpoles exposed to higher levels of UV-B more susceptible to predators

The University of Queensland, 18 Feb 2011 http://www.sciencealert.com.au/news

The thinning ozone layer in the upper atmosphere may be a key factor in the collapse of frog populations worldwide, new research shows.

Tadpoles exposed to higher levels of UV-B sunlight are more susceptible to predators, a University of Queensland study found.

The research by PhD student Lesley Alton is reported this month in *Proceedings of the Royal Society B*.

Amphibians – including frogs, toads and salamanders – are facing an extinction crisis worldwide.

Almost one in three species is threatened, with factors including the loss and fragmentation of habitat, disease, pollution, climate change and introduced predators.

At least 150 species have disappeared since 1980, compared with a natural extinction rate of about one species every 250 years.

The UQ researchers looked particularly at the interactive effects of UV-B and predation risk in the early-life stages of the striped marsh frog.

Ms Alton, from UQ's School of Biological Sciences, said ozone depletion in the past 40 years had increased UV-B radiation. Her work studied the effects on tadpoles of a five per cent rise in UV-B.

"Embryos exposed to the lower UV-B treatment hatched as well as those exposed to the higher UV-B treatment," Ms Alton said. "These tadpoles were also the same size and shape, and were able to swim just as fast."

But the survival time of tadpoles exposed to the higher UV-B treatment fell by nearly 30 per cent when they were exposed to predatory shrimp.

"This finding is significant because it shows that for tadpoles living with predators exposure to elevated UV-B levels can have lethal consequences," Ms Alton said.

#### A note from the Editor

The views expressed by contributors and authors and any links to Websites provided in this Newsletter are not necessarily those of ACTHA.

"Given that the detrimental effects of UV-B radiation were only evident in predation trials, this study also demonstrates the importance of examining the effects of UV-B radiation in an ecologically relevant context, because otherwise the significance of UV-B radiation as an environmental stressor may be misinterpreted.

"The phenomenon of global amphibian declines is a testament to the profound effects of human-induced global change on natural environments.

"With amphibians being the most threatened of all vertebrates, and also important indicators of environmental health, understanding the causes of their declines is critical for their conservation, and possibly the conservation of other species.

"Our study suggests that the human destruction of the ozone layer has the potential be an important contributor to the global decline in amphibian populations."

# Simultaneous polyandry of the frog species *Chiromantis xerampelina* is the most extreme reported for any vertebrate

Macquarie University,18 Feb 2011 Image: Philip Byrne



New research shows that the offspring of promiscuous female frogs have a higher rate of survival than those who remain monogamous, according to Macquarie University biologist, Associate Professor Martin Whiting.

One of nature's biggest mysteries is why some females mate with multiple males (polyandry) despite the risk of disease transmission, potential injury and even increased predation risk. In externally fertilizing animals, including some species of fish and frogs, females can mate with multiple males at the same time.

"One hypothesis to explain this behaviour is that females accrue genetic benefits that improve offspring viability, but until now, this remains largely untested," Whiting said.

Along with fellow researcher Philip Byrne from the University of Wollongong, the pair investigated whether simultaneous polyandry influences offspring fitness in a wild population of the African Grey Foam Nest Treefrog, *Chiromantis xerampelina*.

"Simultaneous polyandry in this frog is the most extreme reported for any vertebrate, with more than 90% of females mating with 10 or more males during the deposition of a single clutch," Whiting said.

Whiting and Byrne compared growth (using age and size at metamorphosis as proxies) and survival of offspring produced by females that naturally mated with either one male or 10–12 males. Polyandry did not influence size or age at metamorphosis, but offspring from polyandrous matings had significantly higher mean survival.

Their findings implicate a genetic benefit to females mating with multiple males, and suggest that females are advantaged by mating promiscuously.

"Irrespective of the causation, these findings provide the first evidence that naturally formed polyandrous matings have increased offspring viability in a frog and help contribute to our understanding of sexual reproduction in the context of multiple matings," Whiting said.

#### REPTILE KEEPING advertised two day course at Taronga Zoo

If you own a reptile or are thinking of keeping one as a pet it's really important to take the time to learn how to properly care for these fascinating creatures.

Join our experts at **Taronga Zoo for a two day course** designed to show you the fundamentals of reptile care and give you insight into how we keep our reptiles here at Taronga.

See http://www.taronga.org.au/education/taronga-training-institute/short-courses/reptile-keeping/reptile-keeping/

### REPTILES & URBAN DEVELOPMENT FORUM, Conservation Council ACT region

There will be a special forum on **28 April 2011 at the Canberra Reptile Sanctuary**, **Gold Creek**, 5:30 for 6pm.

The topic is "Reptiles and Urban Development" and **Will Osborne** will speak about the **Pink-tailed Worm Lizard** in Molonglo, among other things. **Dustin Welbourne**, Chief Scientist, Canberra Reptile Sanctuary, will also speak and show attendees around the sanctuary.

This is a special forum and places are limited, so please register your interest with Anna See before April 27.

Anna See, Project Officer Conservation Council ACT Region 6229 3210

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